Conclusions

Compared to VEP parameters, RNFL thickness was a sensitive correlate with the degree of early disability in fully ambulatory patients with MS with or without history of ON.

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Poster Session 2

Preliminary results of cross – Sectional research for moderate cognitive impairments among persons over 60 years in the Kazakh population

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Today, about two million elderly people live in Kazakhstan, which is more than 10% of the population, thus crossing the seven percent threshold for the definition of an “aging” country in the world. Data on the prevalence of mild cognitive impairment (MCI) and dementia are absent in Central Asia, particularly in Kazakhstan. The Global prevalence pattern of dementia depends on several factors, from life expectancy to the health status, last but not least from the particular environment. It is very difficult to determine a particular factor for it.

Purpose

To study the prevalence of cognitive impairment in persons of the Kazakh population over 60 years old in Almaty

Materials and methods

150 respondents aged from 60 to 84 years (Mean age 67.6) took part in the screening. The material was collected using the Champ Clinic Questionnaire Questionnaire and the MOCA test (cut point <26) on the basis of the Almaty city polyclinic.

Results

Mild cognitive impairment was detected - 39.9%, light cognitive impairment - 33,4%, normal cognitive function - 26.7%. Expected risk factors for MCI: arterial hypertension – 86.89%, Cardiac ischemia, angina pectoris – 70.21%, pathology of the thyroid gland and pancreas (Diabetes, hyperthyroidism and hypothyroidism) – 29.50%, atherosclerotic vascular disease – 29.9%, brain trauma – 18.22%, level of education – 4.24%, depression – 0.6%, respectively.

Conclusions

Kazakhstan is a middle-income country with a growing tendency of an aging population, and we have an urgent need to continue screening the population for the identification of moderate cognitive impairment in individuals in the Kazakh population.

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Possible role of ghrelin in neuronal conduction in improved memory cognition

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Background

Ghrelin, an appetite stimulator, functions through IP3-DAG signaling. It has been found to increase food related memory retention in rodents.

Objective

The study aims to investigate the role of Ghrelin signaling in memory cognition and retention using intracerebroventricular streptozotocin (ICV-STZ) model in Wistar rats.

Methods

Male Wistar rats (250-280 g) were employed into the study with sample size n=6. Streptozotocin (STZ) 3 mg/kg was administered on day one through intra-cerebroventricular route. n-Octanoic acid, a Ghrelin activator was given in two doses 50 and 100uL for 21 daysby dissolving in polyethylene glycol 600whereas Nifedipine, Ca^{++} channel blocker was given at 10 mg/kg, *i.p.* to one group underwent to administration of n-octanoic acid high dose.Impairments in cognition, memory consolidation and retention were assessed using Morris water maze, Y maze, balance beam, open field test and photoactometer test. The biochemical estimations for oxidative stress i.e. lipid peroxidation, glutathione, and acetylcholinesterase activity were done in rat brain homogenate. Statistical analysis was carried out using graph pad prism 5.

Results

ICV-STZ treated animals exhibited memory deficits in Morris water maze, Y maze, balance beam test. Administration of low and high doses of n-Octanoic acid produced significant restoration of memory retention. However, nifedipine abolished the memory improvement produced by n-octanoic acid. The level of oxidative stress and AChE activity observed in rat brain was also reversed.

Conclusion

The finding may reveal that ghrelin plays pivotal role in improving cognition, retentionand working memory possible through Ca signaling.

Keywords: Alzheimer’s disease, Ghrelin, Streptozotocin, n-Octanoic acid (OA), Amyloid beta, Nifedipine

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